

Customer No.: 31561
Application No.: 10/605,306
Docket No.: 11516-US-PA

REMARKS

Present Status of the Application

Claims 1-13 and 20 remain pending in the present application of which claims 1, 3, 5, 9 and 11 have been amended, claims 4 and 7 have been canceled without prejudice or disclaimer and claim 20 has been newly added for more explicitly describing the claimed invention. Amendments to claims are well supported by Figure 2C and paragraph [0029]. Furthermore, Applicants have amended the Title, and the specification to correct typographical errors. It is believed that no new matter adds by way of the amendments to claim or otherwise to the application. For at least the following reasons, Applicants respectfully submit claims 1-13 and 20 are in proper condition for allowance and reconsideration of this application is respectfully requested.

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Discussion of Objections to Specification

1. *The Office Action objected to Title of the Invention for not being descriptive and requests for a new title that is clearly indicative of the invention to which the claims are directed.*

In response thereto, Applicants would like to thank the Examiner for pointing out the informality and suggesting a New Title, and accordingly, amended the Title of the Invention. Reconsideration is respectfully requested.

2. *The Office Action objected to the disclosure because of some of the informalities in paragraphs [0023], [0024], [0025], [0027] and [0028], and requests for appropriate corrections.*

In response thereto, Applicants would like to thank the Examiner for pointing out the informalities, and accordingly, amended the [0023], [0024], [0025], [0027] and [0028]. Reconsideration is respectfully requested.

Discussion of the claim rejection under 35 USC 112

The Office Action rejected claims 1-13 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In response thereto, Applicants would like to thank the Examiner for pointing out the informalities, and accordingly, amended claims 1, 3, 4, 9 and 11. After entry of the

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amendments to claims 1, 3, 4, 9 and 11, it is believed that the above rejections can be overcome. Reconsideration is respectfully requested.

Discussion of the claim rejection under 35 USC 102

The Office Action rejected claims 1-3 and 8 under 35 USC 102(b) as being anticipated by Tanaka et al. (US-202/0105089, hereinafter Tanaka).

Applicants respectfully disagree and traverse the above rejections as set forth below. Independent claim 1 is allowable for at least the reason that Tanaka fails to teach or disclose each and every features of claim 1. More specifically, Tanaka substantially fails to teach or disclose a method of fabricating a semiconductor comprising at least the steps of forming a liner layer over a bottom and sidewalls of the first openings; and forming a bottom plug in the first openings as required by the amended claim 1. The advantage of the above process steps is that it not only allows the miniaturization of semiconductor devices but also during the etching process for forming the opening between the conductive structures, because of the sub-micron gap between the conductive structures, it most likely that a portion of the spacers that are intended for isolating the conductive structures are removed and it is also possible that a portion of the conductive structures may be exposed due to over-etching of the spacers, therefore by forming a liner layer on the bottom and sidewalls of the opening, the exposed portion of the conductive structures can be effectively insulated. Furthermore, in the event of over-etching of the spacers on the sidewalls of the conductive structures,

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a portion of the conductive structures is being removed and forms a recess, and subsequently when the liner layer is formed, a comparative thicker liner layer would be formed at the recess and therefore the exposed conductive structures can be effectively insulated.

Instead, Tanaka, in Figs. 16A-16F and Figs. 17A-17F, substantially describes a method of forming a semiconductor device comprising forming a plurality of gate electrodes on the substrate. Next, a conformal silicon nitride layer (24) and a silicon oxide layer (25) are sequentially formed over the gate electrodes. Next, a portion of the silicon oxide layer (25) is removed to form a plurality of contact holes 71a and 71b until a portion of the silicon nitride layer (24) between the gate electrodes and the sidewalls of the gate electrodes are exposed and then a doped silicon layer is filled into the contact holes 71a and 71b. However, Tanaka substantially fails to teach, suggest or disclose a step of forming a liner layer on the bottom and side walls of the contact openings 71a and 71b before forming the doped silicon layer (72) over the contact holes (71a) and (71b). In other words, Tanaka substantially fails to teach or disclose at least the steps of forming a liner layer over a bottom and sidewalls of the first openings; and forming a bottom plug over the liner layer in the first openings as required by the amended claim 1, instead Huang substantially teaches a step of filling the doped silicon layer (72) into the contact holes 71a and 71b without forming a liner layer on the bottom and sidewalls of the contact holes 71a and 71b. Accordingly, Applicants respectfully submit that Huang cannot possibly anticipate Claim 1 in this regard and therefore should be allowed. Reconsideration is respectfully requested.

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Thus, Tanaka fails to teach each and every features of the proposed amended independent claim 1.

Claims 1-3 and 8, which depend from Claim 1, directly or indirectly, are also patentable over Tanaka, at least because of their dependency from an allowable base claim 1.

Furthermore, because the newly added proposed independent claim 20 also recites features that are similar to claim 1, and therefore, claim 20 also patently define over Tanaka for at least the same reasons described above.

For at least the foregoing reasons, Applicants respectfully submit that claims 1-3 and 8 patently define over Tanaka, and therefore should be allowed. Reconsideration and withdrawal of the above rejections is respectfully requested.

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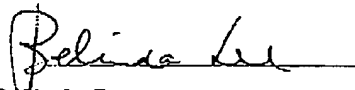
CONCLUSION

For at least the foregoing reasons, it is believed that all the pending claims 1-13 and 20 of the present application patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted

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